

EDF Overview

FROM MOODY'S ANALYTICS

MOODY'S ANALYTICS EDF™ (EXPECTED DEFAULT FREQUENCY) CREDIT MEASURES

EDF stands for Expected Default Frequency and is a measure of the probability that a firm will default over a specified period of time (typically one year). "Default" is defined as failure to make scheduled principal or interest payments.

According to the Moody's EDF model, a firm defaults when the market value of its assets (the value of the ongoing business) falls below its liabilities payable (the default point).

THE COMPONENTS OF EDF

There are three key values that determine a firm's EDF credit measure:

- » The current market value of the firm (market value of assets)
- » The level of the firm's obligations (default point)
- » The vulnerability of the market value to large changes (asset volatility)

Because these are objective, non-judgmental variables, EDF credit measures have consistently outperformed the rating agencies in distinguishing between defaulting and non-defaulting firms. Not only that, they have proven to be a consistent leading indicator of agency rating upgrades and downgrades.

MARKET VALUE OF ASSETS

The market's view of the enterprise value of the firm, as determined by the firm's equity value, equity volatility, and liability structure. Because the market value of assets is not directly observable, Moody's Analytics employs a proprietary option-theoretic model to compute this value, which treats the firm's equity value as a call option on the firm's underlying assets.

The option-theoretic approach enables Moody's Analytics to determine the market value of a firm's assets from knowing only the market characteristics of its equity value and the book value of its liabilities.

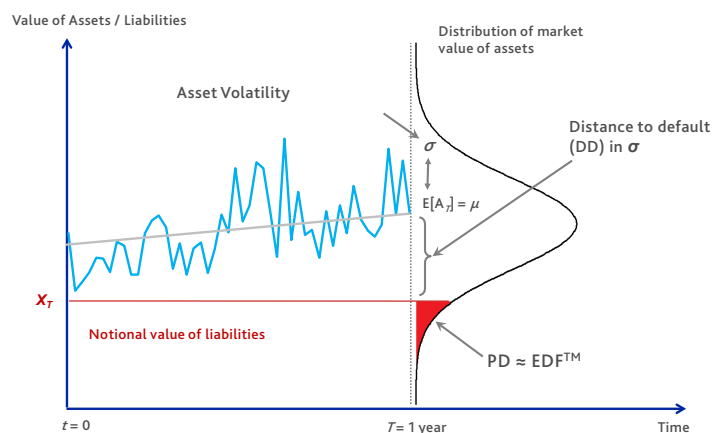
ASSET VOLATILITY

A measure of the business risk of the firm; technically, the standard deviation of the annual percentage change in the market value of the firm's assets. The higher the asset volatility, the less certain investors are about the market value of the firm, and the more likely the firm's value will fall below its default point.

DEFAULT POINT

The level of the market value of a company's assets, below which the firm would fail to make scheduled debt payments. The default point is firm specific and is a function of the firm's liability structure. It is estimated based on extensive empirical research by Moody's Analytics, which has looked at thousands of defaulting firms, observing each firm's default point in relation to the market value of its assets at the time of default.

Default Process in the Structural Model



Credit Research & Risk Measurement

THE EDF DIFFERENCE

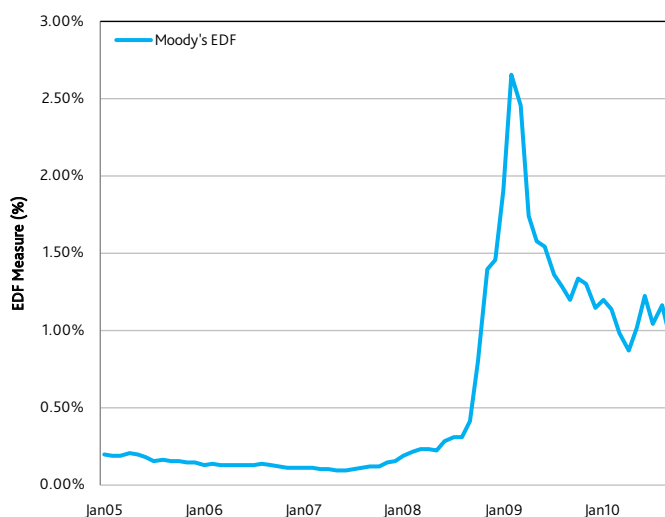
Moody's EDF credit measures exhibit a number of characteristics that distinguish them from conventional and other statistical approaches to measuring default risk.

- » EDF credit measures are a dynamic and forward-looking measure, unlike alternatives that generally rely on accounting data that is intrinsically historical and backward-looking.
- » EDF credit measures are actual probabilities critical in debt pricing and portfolio management applications, in contrast with alternative products that offer only relative rankings.
- » The EDF credit measure is based on a cause-and-effect model that is not statistically fitted to predict default. This results in performance that is consistent over time. In contrast, the same agency bond rating corresponds to different default rates at different times.

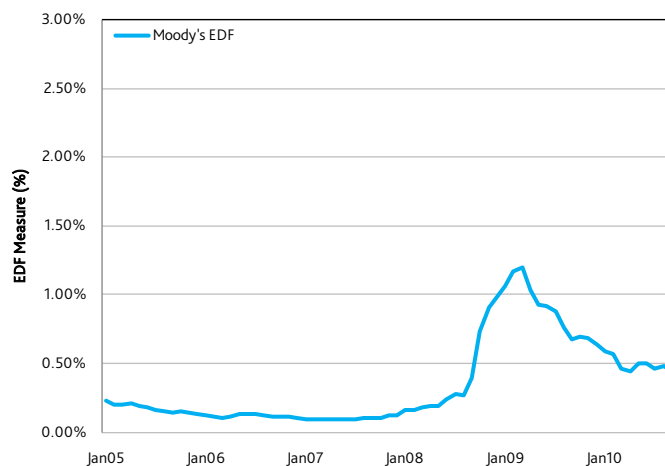
Because Moody's EDF credit measures are not fitted to predict default, they can be accurately back-tested upon historical data. Moody's EDF credit measures have been tested on nearly 35 years of data representing approximately 5,300 defaults in the United States alone, as well as on smaller samples in various countries around the globe.

Moody's EDF credit measures significantly outperforms agency ratings in measuring the probability of default, as well as statistical scoring models of all types.

Median Moody's EDF in US
Size \$30 million and above
Jan '05 - Sept '10



Median Moody's EDF in Europe
Size \$30 million and above
Jan '05 - Sept '10



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